IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	GASSMANN	Examiner: Smith, Arthur A.
Serial No.:	10/080,806	Group Art Unit: 2851
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For:	CAMERA, PROCESS FOR RECONSTRUCTING AN IMAGE INFORMATION, AND PROCESS FOR CALIBRATING AN IMAGE INFORMATION	

Commissioner for Patents
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DECLARATION

I, Franz Josef Gassmann do hereby declare:

1. I am the inventor of the invention being claimed in the above-identified application;

2. I have read and understand the Final Office Action mailed December 13, 2004 by the Patent and Trademark Office in the above-identified application, including the applied art, namely U.S. Pat. No. 4,511,229 to Schwartz et al and U.S. Pat. No. 4,977,521 to Kaplan;

3. The problems solved by the present invention include retarding aging of photographic emulsions regardless of kind of emulsion or specific film being used (e.g., standard color film, infrared-sensitive film, ultraviolet-optimized film, conventional black-and-white film, etc.), reducing temperature dependence of photographic emulsions and multi-layer films, and influence of temperature gradients on CCD or CMOS devices. The present invention overcomes these prior disadvantages by providing a simplified device and method preserving flexibility for a user/photographer, as opposed to complicated and expensive solutions required in the prior art. The simplified arrangement of the present invention also reduces influence of different errors;

4. These and other advantages are accomplished by the inventive device for recording image information as recited in presently-pending independent Claim 1 and having one or more media for creating one or more white light spots with known spectral intensity distribution and/or chromaticity coordinates and/or brightness, which are recorded at the same time as a picture is taken by a recording medium positioned or capable of being positioned in the camera recording device. The inventive process as recited in presently-pending independent Claim 20 for accomplishing these objects is directed to parametrically recording divergence between a reconstructed light signal to one or more white light spots generated by one or more generating media on recording medium at the same time a picture is taken or a complementary light signal, and processing these calibration parameters for further image reconstruction and/or processing;

5.With the present invention, a single white LED is suitable for correction of aging effects. If the intensity characteristic, i.e., intensity distribution of the LED surface is known, a correction for different intensity values can be applied. Specific materials and processing are not required. Thus low cost solution and high end correction of aging effects occurring in photographic material is simultaneously attained:

6. In the present invention, a light specific signal is recorded on film, regardless of the application using the signal, at a point in time when the film possesses a specific state of aging, depending upon time and temperature of exposure. Coincidence with this point in time of picture-taking is important. Spectral distribution of the light signal recorded is fixed, meaning the same distribution for all pictures over the time the apparatus is used;

7. In the present invention, the recorded light signal has nothing to do with the source light illuminating a scene to be photographed or changing illumination conditions. Specific spectral distribution of the light present in the photographed scene is not covered, hence there is no interaction depending upon required illumination conditions. Thus, there is no need to change a filter should illumination conditions change. The light signal is recorded every time a user/photographer takes a picture, and neither during manufacture nor in the lab when developing the film. No slide of the film must be reserved for the light signal;

8. Preferably, the light signal is represented by a white point in color space when working with the visible light spectrum, suitable for a variety of film without specific adjustment by the photographer. Distinctions between negative and positive material are not required, while specific materials, chemical development processes and additional costs in developing film are all avoided;

9. Concerning the enablement rejection under 35 U.S.C. §112, first paragraph raised in the Final Office Action, namely the Examiner's assertion page 4, lines 7-12 of the application fails to disclose the feature of one or more white light spots are recorded at the same time as the picture is taken, attention is respectfully called to page 4, first paragraph of the present application where it is stated the media generate a light signal with known spectral intensity distribution or chromaticity coordinates, this light signal being recorded on the recording medium in the camera. It is further disclosed this recording creates a reference signal by which the recording is calibrated. The last sentence of the first paragraph on page 4 of the present application states that in this manner, a reproduction true to the original is possible;

10. It is further outlined on pages 2 and 3 of the present application that the effects of color layers being old and thus having reduced sensitivity and need to compensate different temperatures, must be taken into account. Accordingly, it is explicitly stated in the last full paragraph on page 3 of the present application, that one object of the present invention is creating a camera by which color or brightness information of the photographed subject can be reliably reproduced;

11. Additionally, attention is called to the last sentence in the first paragraph on page 6 of the present application where it is stated the invention ensures the appropriately adjusted development, even in the case of a spectral color-film layer with limited sensitivity, so that a certain spectral chromaticity range may be exposed longer. The developer of the film will expose the spectral range of a film until the white light spot is again appropriately white on the recorded image to obtain a reliable reproduction of the photographed scene independently of limited or changing sensitivities of the film layers. This procedure is only logical if the reference signal is recorded at the same time a picture is taken;

12. Accordingly, in light of the explicit citations found in the present application and outlined in paragraphs 9-11 *supra*, it is clear to me, one skilled in the art, the present application explicitly teaches reliable reproduction of color or brightness information can only be attained if the reference signal, i.e., one or more white light spots, is taken at the same time a picture is taken;

13. Concerning the two applied citations, Schwartz et al fail to show or suggest to me the application of one or more media for creating one or more white light spots with known spectral intensity distribution and/or chromaticity coordinates and/or brightness, for the following reasons. This reference discloses three filters, with light passing by fiber optic bundles to the film margin after passing the filters. Such apparatus and procedure are relatively complicated and likely to fail because the (i) filters might differ in quality, (ii) light distribution on the filters might not be uniform and (iii) fiber bundles may not possess equal length. Furthermore, a film comprising more than three layers cannot be used in such apparatus which is directed to recording parameters describing the illumination condition (please see the Abstract of this reference), in contrast to the present invention which operates independently of any illumination conditions;

14. More particularly, in Schwartz et al films are optimized to provide best results if a specific spectral distribution of the illuminating light is present. However, if the illumination conditions are changed, the result will differ from optimal. Therefore, photographers will try to compensate effect of changing scene illumination by first recording information of existing illumination and subsequently using this information for modified development of the film and generated pictures. As shown in Fig. 1 of Schwartz et al, a few digital values obtained from illuminating light are recorded after passing through different optical filters functioning in transmission. Alternatively, as shown in Figs. 2-5, instead of recording digital values, it is possible to store light from the illuminated scene directly on the film after passing through different optical filters;

15. In contrast to Schwartz et al, in the present invention parameters describing illuminating conditions need not be recorded, neither digitally nor directly on the film. Illuminating conditions are not a factor in the present invention which functions independently of illuminating conditions. Furthermore, Schwartz et al intend to record a set of parameters describing illuminating conditions every time such conditions change. Therefore, a user, e.g., a portrait photographer, who has not changed illuminating equipment will have no need to further record any parameters if already recorded once. Therefore, Schwartz et al is unsuitable for detecting or compensating any effects relating to aging of photographic emulsions;

16. Kaplan is directed to reducing influence of noise in photographic emulsions on image reconstruction and a certain kind of expensive film material requiring expensive developing. Kaplan has nothing to do with compensating declining sensitivity of one or more film layers or change in temperature. There is no suggestion in this reference of significance of recording the white light spot at the same time a picture is taken. As explicitly disclosed at column 5, line 66-column 6, line 11, one of Kaplan's features is only exposing one frame by the film development laboratory or during manufacture, but not by the photographer/user. This clearly indicates to me, one skilled in the art, that Kaplan fails to contemplate recording white light spots at the same time a picture is taken to compensate for deteriorating sensitivity or temperature effect;

17. More particularly, Kaplan utilizes a negative color dye Dn and a positive color dye Dp to reduce noise in photographic images and compensate for fluctuation in silver halide crystal content. This process of noise reduction requires not only specific photographic emulsion and film development, but also complex, expensive equipment, e.g., scanners, different filters, etc. and complicated algorithm analysis. Kaplan fails to take into account complicated aging effect and is only concerned with noise formation depending on different exposure levels;

18. There is no logical reason to me, one skilled in the art, to even consider and combine the teachings of Schwartz et al with Kaplan together, because there is no logical reason to relate collecting illuminating conditions (Schwartz et al) with noise reduction (Kaplan) or *vice versa*. The disclosure in Kaplan cannot be used to enhance retrieval of illuminating information taught in Schwartz et al; and the disclosure in Schwartz et al cannot be used to further reduce noise in the system of Kaplan. In fact, using the apparatus of Schwartz et al to determine specific histogram functions of a film would destroy the effect of noise reduction attained by Kaplan;

19. More specifically, exposing the film to the exposure level gray scale mask illuminated by the source light illuminating a scene will result in varying histogram functions unsuitable for noise reduction and failing to be an improved representation of the illumination conditions. Joint positive-negative development is based upon two present colored dyes Dp and Dn if the emulsion is already developed and fixed, two per layer, two for a black and white film, two for one layer of a color film, two for each layer of a color film if optimized for a noise reduction of all layers present;

20. Accordingly, even if I could logically consider and combine the teachings of Schwartz et al with Kaplan together, such a combination of the different methods and systems taught in these respective patents would clearly fail to result in an enhanced method or system for solving problems such as time-dependent aging effect; and

21. Further, I hereby declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United states Code, and such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Date Franz Josef Gassmann